

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. Contract ID Code Cost-Plus-Fixed-Fee		Page 1 Of 8	
2. Amendment/Modification No. P00024		3. Effective Date 2004MAR04		4. Requisition/Purchase Req No. SEE SCHEDULE		5. Project No. (If applicable)	
6. Issued By TACOM WARREN BLDG 231 AMSTA-AQ-ABGA JANET JOUDAS (586)574-7273 WARREN, MICHIGAN 48397-5000 HTTP://CONTRACTING.TACOM.ARMY.MIL EMAIL: JOUDASJ@TACOM.ARMY.MIL		Code W56HZV		7. Administered By (If other than Item 6) DCMA SANTA ANA 34 CIVIC CENTER PLAZA ROOM 813A SANTA ANA CA 92701-4056 SCD C PAS NONE ADP PT HQ0339		Code S0513A	
8. Name And Address Of Contractor (No., Street, City, County, State and Zip Code) CHANG INDUSTRY, INC. 1925 MCKINLEY AVENUE SUITE F LA VERNE, CA. 91750-5800 TYPE BUSINESS: Small Disadvantaged Business Performing in U.S.				<input type="checkbox"/>		9A. Amendment Of Solicitation No.	
				<input type="checkbox"/>		9B. Dated (See Item 11)	
				<input checked="" type="checkbox"/>		10A. Modification Of Contract/Order No. DAAE07-99-C-L062	
Code 0GTS7 Facility Code				<input type="checkbox"/>		10B. Dated (See Item 13) 1999SEP29	
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input type="checkbox"/> The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing items 8 and 15, and returning _____ copies of the amendments: (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. Accounting And Appropriation Data (If required) ACRN: AP NET INCREASE: \$3,351,691.50							
13. THIS ITEM ONLY APPLIES TO MODIFICATIONS OF CONTRACTS/ORDERS KIND MOD CODE: 8 It Modifies The Contract/Order No. As Described In Item 14.							
<input type="checkbox"/> A. This Change Order is Issued Pursuant To: The Changes Set Forth In Item 14 Are Made In The Contract/Order No. In Item 10A.							
<input type="checkbox"/> B. The Above Numbered Contract/Order Is Modified To Reflect The Administrative Changes (such as changes in paying office, appropriation data, etc.) Set Forth In Item 14, Pursuant To The Authority of FAR 43.103(b).							
<input type="checkbox"/> C. This Supplemental Agreement Is Entered Into Pursuant To Authority Of:							
<input checked="" type="checkbox"/> D. Other (Specify type of modification and authority) Mutual Agreement of Both Parties							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return _____ copies to the Issuing Office.							
14. Description Of Amendment/Modification (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) SEE SECOND PAGE FOR DESCRIPTION Contract Expiration Date: 2004AUG31 Except as provided herein, all terms and conditions of the document referenced in item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. Name And Title Of Signer (Type or print)				16A. Name And Title Of Contracting Officer (Type or print) DEREK MCALEER MCALEERD@TACOM.ARMY.MIL (586)574-7197			
15B. Contractor/Offeror (Signature of person authorized to sign)		15C. Date Signed		16B. United States Of America By _____ /SIGNED/ (Signature of Contracting Officer)		16C. Date Signed 2004MAR04	
NSN 7540-01-152-8070 PREVIOUS EDITIONS UNUSABLE				30-105-02		STANDARD FORM 30 (REV. 10-83) Prescribed by GSA FAR (48 CFR) 53.243	

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Name of Offeror or Contractor: CHANG INDUSTRY, INC.		

SECTION A - SUPPLEMENTAL INFORMATION

Modification P00024

PROGRAM: Full Spectrum Active Protection Close In Layered Shield (FCLAS) efforts

PURPOSE: Further Integration, development, downsizing, packaging and field testing of a prototype FCLAS system mounted on a moving platform.

PREVIOUS CONTRACT VALUE:	\$14,868,884.95
AMOUNT THIS ACTION:	\$ -0-
TOTAL CONTRACT VALUE:	\$14,868,884.95
TOTAL OBLIGATED AMOUNT	
(EXCLUDING CHANGE ORDERS):	\$14,868,884.95
UNDEFINITIZED CHANGE ORDER	
OBLIGATIONS:	\$ 3,351,691.50
TOTAL OBLIGATIONS:	\$18,220,576.45

- This is a bilateral modification issued pursuant to FAR Clause 52.243-2, Changes - Cost Reimbursement (Alternate V).
- The purpose of this modification is to expand the contract Scope of Work (C.10 of the scope) by incorporating expanded development and testing requirements for the Full Spectrum Active Protection Close In Layered Shield (FCLAS) efforts and to extend the contract period of performance. Changes to the scope are highlighted by underline. FAR clause 52.229-10 State of New Mexico Gross Receipts and Compensating Tax (Oct 1988) is also added and attached herein.
- The Contractor and the Government agree:

a. The ceiling price for the effort being incorporated to (C.10) by this modification will be \$6,703,383.00. Any equitable adjustment resulting from this modification will increase the total amount of the contract, including fee, by a maximum of \$6,703,383.00.

b. The definitization of this change order will not exceed the following schedule unless agreed to by both parties in a bilateral modification.

Proposal Submission:	30 days after award of this modification
Proposal Evaluation Complete:	45 days after proposal submission
Negotiations Complete:	30 days after evaluation complete
Award of Definitization Modification:	15 days after negotiations complete

c. Modify the contract as follows:

1) Section B: CLIN 0009AA is established and funded in the amount of \$3,351,691.50 to reflect change order funding that is obligated under this modification.

2) Section C: Changes to SOW C.10 - Full Spectrum Active Protection Close In Layered Shield (FCLAS) are added into this contract and attached herein.

3) Section F: Section F.2.6 is updated to reflect the new period of performance for SOW C.10 and is attached herein.

4) Section G: This section is updated to reflect the amount obligated as of this modification.
- All other terms and conditions remain unchanged.

Name of Offeror or Contractor: CHANG INDUSTRY, INC.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009	<div>SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS</div> <div>SERVICES LINE ITEM</div> <div>SECURITY CLASS: Unclassified</div> <div>Contractor shall furnish all the supplies and services to accomplish the services as specified Section C.10 of the Contract.</div> <div>(End of narrative B001)</div>			<div>Est. Cost:</div> <div>Fixed Fee:</div> <div>Total Cost:</div>	<div>\$TBD</div> <div>\$TBD</div> <div>\$TBD</div>
0009AA	<div>SERVICES LINE ITEM</div> <div>NOUN: CONTRACT CHANG DAAE0799CL062</div> <div>PRON: R342C174R3PRON AMD: 02ACRN: AP</div> <div>AMS CD: 622601T2611</div> <div>Inspection and Acceptance</div> <div>INSPECTION: DestinationACCEPTANCE: Destination</div> <div>Deliveries or Performance</div> <div>DLVR SCHPERF COMPL</div> <div>REL CDQUANTITYDATE</div> <div>0010SEE SECTION F</div> <div>\$3,351,691.50</div>				<div>\$3,351,691.50</div>

<p style="text-align: center;">CONTINUATION SHEET</p>	<p style="text-align: center;">Reference No. of Document Being Continued</p> <p style="text-align: center;">PIIN/SIIN DAAE07-99-C-L062 MOD/AMD P00024</p>	<p style="text-align: center;">Page 4 of 8</p>
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Name of Offeror or Contractor: CHANG INDUSTRY, INC.

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

C.10 Prototype - Full Spectrum Active Protection Close in Layered Shield (FCLAS) efforts

C.10.1 The contractor shall further develop and test/demo, on board a moving platform, a prototype FCLAS system designed for hemispherical protection of combat vehicles against Rocket Propelled Grenade (RPG) and Light Anti-armor Weapon (LAW) class threats. The prototype FCLAS shall use Radio Frequency (RF) sensors and countermeasures designed, devised and developed under the current contract DAAE0799CL062. FCLAS was formerly called SLAP and was developed under Task G in C.9.8 of the current contract.

C.10.1.1 The contractor shall investigate and develop the optimal FCLAS countermeasure and countermeasure launcher configurations for defeating handheld HEAT (RPG and LAW) class threats. Current plastic grenade launcher tubes do not survive repeated FCLAS countermeasure launches. The contractor shall design and assemble a more rugged grenade launcher design that can survive repeated launches for use in the final FCLAS system level testing.

C.10.1.2 - Downsizing and Hardening Activities

C.10.1.2.1 The contractor shall further develop, down-size and flight harden all the prototype FCLAS electronics system hardware including the on-board RF proximity sensor system, signal processor subsystem and countermeasure control electronics.

C.10.1.2.2 The contractor shall engineer and convert the analog, intermediate frequency (IF), sensor, signal processor and countermeasure control electronics circuit boards into much smaller electronic chip assemblies. The objective is to reduce the length of the FCLAS countermeasure electronics section to a more desired length of less than 12 inches. However, the goal is to achieve a length of less than 9 inches.

C.10.1.3 The contractor shall design, develop and integrate into the prototype FCLAS countermeasure system hardware an FCLAS safe and arm (S&S) system. This system shall sense and determine if the FCLAS countermeasure delivery package is flying as designed and will activate the FCLAS countermeasure triggering components when the package is safely launched.

C.10.1.4 Component Level Testing: The contractor shall conduct two separate rounds of Component Level testing.

C.10.1.4.1 Round One: In the first round of testing the contractor shall conduct static and dynamic tests of the initial prototype FCLAS sensor and countermeasure components against RPG class threats to determine the sensitivity and effectiveness of the components at different offset distances and encounter positions.

C.10.1.4.2 Round Two: In the second round of Component Level testing, the contractor shall conduct static and dynamic FCLAS component level testing incorporating the further downsized FCLAS countermeasure electronic components, as detailed in C.10.1.2.2. The tests will be conducted against RPG class threats to determine the sensitivity and effectiveness of the downsized components at different offset distances and encounter positions.

C.10.1.4.3 The following definitions and requirements apply to both rounds of testing. In static tests the FCLAS component being examined is placed or mounted statically along the side or below the flight path of the threat fly-by. In dynamic tests the FCLAS components being examined is launched in the opposite direction of the on coming threat and encounters the threat while the component is in flight. The contractor shall conduct a sufficient number of static and dynamic tests at different offset distances and encounter positions sufficient to demonstrate the sensor and countermeasure components are fully capable of performing their designed prototype FCLAS functions as set forth in C.10.1.1, C.10.1.2 and C.10.1.3.

C.10.1.5 Dynamic FCLAS System Level Testing:

C.10.1.5.1 Round One: After completion of the Component Level Testing in C.10.1.4, the contractor shall conduct a sufficient number of FCLAS system level dynamic tests to demonstrate the integrated package of prototype FCLAS system of sensor and countermeasure components are fully capable of protecting a stationary location from RPG class threats at different offset distances and encounter positions.

C.10.1.5.2 Round Two: The contractor shall conduct the same dynamic FCLAS system level testing detailed in C.10.1.5.1 above (Round One) on the further downsized integrated package countermeasure electronics section.

C.10.1.6 Upon completion of the dynamic FCLAS system level testing in C.10.1.5, the contractor shall install the prototype FCLAS launch and control hardware onto a tow-able mobile platform, provided as GFE for testing.

C.10.1.7 On-the-move FCLAS System Level Testing: The contractor shall (where possible incorporating new FCLAS chip designs) conduct prototype FCLAS system level testing against RPG class threats while mounted on the GFE mobile platform. The tests will be conducted with the platform at a standstill and while it is on-the-move (OTM). These tests shall be performed with the platform at zero miles per hour, moving at five miles an hour and moving at approximately but no greater than ten miles an hour across the flight path of the RPG threat. The prototype FCLAS system shall be protecting a one inch thick high hard steel target plate. At least five different RPG class projectiles shall be fired against each of the three prototype FCLAS setup moving speeds. The RPG threats shall be encountered at least 10-feet in front of the target plate. The goal is to defeat at least 80-percent of the tested RPG class threats, as evidenced by

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zero penetration of the target plate.

C.10.1.8 The contractor shall collect photographic and video documentation of all prototype FCLAS component level and systems level On-The-Move tests efforts as described in C.10.1.4 and C.10.1.6. The field testing setup shall include the use of super-high speed VHS video cameras, yaw cards, high-speed and high-frame rate cameras and impact plates. The component testing leading up to the final field tests will include, as needed, use of flash X-ray and other high-speed imaging technology, such as high-speed (up to 4000 fps) cameras or super-high speed VHS video cameras After each test the damage to both the target plates and flying projectiles will be assessed and documented. Data shall be submitted in accordance with Exhibit A, Contract Data Requirements List (DD Form 1423-1), Data Items A001, A002 and A003.

C.10.1.9 . The contractor shall develop and deliver, as part of the prototype FCLAS technical report, a draft prototype FCLAS design and integration of the FCLAS system components. The contractor shall produce a document that describes the "prototype FCLAS design and how it's major components are integrated and how it could be linked to the other vehicle systems, in their final report. Data shall be submitted in accordance with Exhibit A, Contract Data Requirements List (DD Form 1423-1), Data Items A001, A002 and A003.

C.10.2.0 DATA REQUIREMENTS: Current reporting requirements, as established with the existing Contract Data Requirements List (DD Form 1423) shall be continued and extended to cover the supplemental effort. The required progress reports will document all test activities performed within the time period covered. The required final report package shall document and summarize all testing tasks. In addition, the contractor shall prepare quarterly cost and performance reports as set forth in CDRL A003 of the DD Form 1423.

C.10.2.1 Delivery Schedule for prototype FCLAS efforts: The contractor shall develop the prototype FCLAS system and;
a) Round One:
- Dynamic FCLAS System Level Testing by Mar 2004
- Conduct prototype FCLAS OTM tests at EMRTC, by mid May 2004
b)Deliver a Prototype FCLAS system OTM test report by the mid July 2004
c) Round Two: Reduce length prototype Dynamic FCLAS System level and FCLAS OTM tests by mid Aug 2004.
d) Deliver a draft final prototype FCLAS technical report by end of Sep 2004 or eleven months after the C.10 Prototype FCLAS efforts are awarded.

*** END OF NARRATIVE C 006 ***

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SECTION F - DELIVERIES OR PERFORMANCE

DELIVERIES OR PERFORMANCE

- F.1 Delivery
- F.1.1 Delivery of Data set forth in the Contract shall be in accordance with the Contract Data Requirements List, DD Form 1423.
- F.2 Performance
- F.2.1 The period of performance shall be five (5) months after date of award.
- F.2.2 Performance for each Option exercised under this contract, including preparation and delivery of all reports, shall be completed in accordance with the time frames specified below:
- | OPTION | TITLE | PERIOD OF PERFORMANCE |
|----------|---|-----------------------|
| Option 1 | Fabricate modified designs (Task 3) | 30 Apr 2000 |
| Option 2 | Static test modified designs at the
Camp Williams Test Site (Task 4) | 31 Jul 2000 |
- F.2.3 The period of performance for the Scope of Work as defined under C.7 of this contract, including preparation and delivery of all reports, shall be completed within eighteen (18) months from date of award of Modification P00005.
- F.2.4 The period of performance for the Scope of Work as defined under C.8 of this contract, including preparation and delivery of all reports, shall be completed within fifteen (15) months from date of award of Modification P00007.
- F.2.5 The period of performance for the Scope of Work as defined under C.9 of this contract, including preparation and delivery of all reports, shall be completed within twenty-four (24) months from date of award of Modification P00008.
- F.2.6 The period of performance for the Scope of Work as defined under C.10 of this contract, including preparation and delivery of all reports, shall be completed within eleven (11) months or September 30, 2004.

*** END OF NARRATIVE F 003 ***

Name of Offeror or Contractor: CHANG INDUSTRY, INC.

SECTION G - CONTRACT ADMINISTRATION DATA

LINE	PRON/ AMS CD/ <u>ITEM</u> <u>MIPR</u>		OBLG STAT/ <u>JOB ORD NO</u>		<u>PRIOR AMOUNT</u>		INCREASE/DECREASE <u>AMOUNT</u>		CUMULATIVE <u>AMOUNT</u>
0009AA	R342C174R3	AP	1	\$	0.00	\$	3,351,691.50	\$	3,351,691.50
	622601T2611		42C174						
					NET CHANGE	\$	3,351,691.50		

SERVICE <u>NAME</u>	NET CHANGE <u>BY ACRN</u>	<u>ACCOUNTING CLASSIFICATION</u>				ACCOUNTING <u>STATION</u>	INCREASE/DECREASE <u>AMOUNT</u>
Army	AP	21	42040000046N6N7EP622601255Y	S2011342C174		W56HZV	\$ <u>3,351,691.50</u>
NET CHANGE							\$ 3,351,691.50

		<u>PRIOR AMOUNT</u> <u>OF AWARD</u>		<u>INCREASE/DECREASE</u> <u>AMOUNT</u>		<u>CUMULATIVE</u> <u>OBLIG AMT</u>
NET CHANGE FOR AWARD:	\$	14,868,884.95	\$	3,351,691.50	\$	18,220,576.45

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SECTION I - CONTRACT CLAUSES

<u>Status</u>	<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
I-1 ADDED	52.229-10	STATE OF NEW MEXICO GROSS RECEIPTS AND COMPENSATING TAX	APR/2003